Theoretical and Experimental Research on Elements in Nuclear Synthesis Chemistry

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Abstract: Research Background: This paper is about the four major experiments and theories in modern known physics, including the abundance of the universe; Nuclear synthesis elements require the binding energy of various basic energies; And the infinite asymmetry of energy required for various elements; Quarks require sufficient gluons and pressure, as well as the theory of atomic saturation states. Previously, these 5 key points were all completed through a single experiment. Now, I have merged the 4 experiments together to form innovative experiments and theories. The biggest feature of my paper is to simulate the special environment of the interior space of stars in the universe. The main research objectives of the paper are four: experimental methods for stable physical properties under heavy element saturation state, experimental methods for synthesizing heavy elements and new elements, experimental methods for providing a large amount of energy in continuous chemical reactions, and experimental methods for binding energies of hadrons, leptons, mesons, and higher quantum nuclei. In addition, magnetic confinement fusion experiments combine various energies and quantum confinement in finite space methods, Rp process and γ - process combination experiments. The energy generated by hydrogen recycling nuclear reactions can replace the energy of traditional heavy element nuclear fission, and can be applied to nuclear reactor technology. Moreover, the energy conversion efficiency is high, and the energy can be widely used in various fields

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1. Cosmology

When studying the first formation of stars in the universe, a cloud of hydrogen gas formed various elements after nuclear fusion. When a solid planet is formed in the later stage of fusion and eventually collapses into a black hole, the physical principles of the entire process serve as the experimental basis for studying artificial chemical elements. Cosmic rays and particles are the energy of nuclear excited state radiation, and various types of radiation energy are also important technologies for studying artificial heavy elements. They contain the basis and proof of different levels of energy. If the radiation energy and particles are absorbed by heavy elements, when the elements reach saturation, the physical properties of heavy elements become stable. Modern physics experimental research has also found that various heavy elements can absorb radiation energy and gluons. This article attempts to study the physical connections of various aspects of nucleosynthesis elements.

2. Analysis of the principle process and principle basis of the simulated celestial body experiment

Design a simulated celestial body experiment based on the principle of star formation, which requires simulating extreme physical conditions and special physical environments inside the star. The principle of simulating the physical

changes of stellar nuclear fusion is to create all its environmental conditions in the laboratory. In modern physics experiments, nuclear reactions emit many rays, including alpha rays, beta rays, gamma rays, infrared rays, ultraviolet rays, X-rays, high-energy particles, etc. The products of nuclear fusion in physics experiments form various radioactive chemical elements. This confirms the high success rate of experimental synthesis of elements.

There is still no correct explanation for the origin of chemical elements in the universe. This article aims to design experiments on extreme physical conditions in the universe. The formation of chemical elements in the universe is a product of stellar fusion. At the same time, various types of radiation such as infrared, gamma rays, X-rays, and ultraviolet rays play important roles in chemical reactions. These rays are the physical properties of atomic nuclei and the radiation of atoms, indicating that they are closely connected to the atomic structure. This experiment uses high-density hydrogen, deuterium, or tritium to represent the initial formation of hydrogen clouds. Alpha rays, X-rays, infrared rays, ultraviolet rays, beta rays, gamma rays, neutron flux, proton flux, electron flux, and high-energy particles representing nuclear fusion radiation; The modern experimental radiation energy nuclear reaction equation refers to the energy of 2.22 megaelectronvolts emitted by the combination of neutrons and protons in deuterium. This energy is radiated by gamma rays. In the opposite process, tritium or deuterium nuclei are bombarded by gamma rays and separated into neutrons and protons. This type of radiation and anti radiation can provide nuclear energy and high demand binding energy for nucleosynthesis elements through nuclear energy and reaction processes. In the experiment, there are neutron flow, proton flow, and beta rays (high-speed electron flow), as well as radiation and magnetic field effects (causing the electron flow to move in a circular motion, controlling the energy of the radiation inside the device, and increasing the density of various ion particles). The main components of quantum science atoms are neutrons, protons, and electrons. As long as appropriate physical conditions are designed, nuclear binding of heavy elements can be achieved in a nuclear reactor. After the operation of our nuclear reactor, a large amount of waste and various radioactive substances are often generated. It can be seen that particles and radiation collide with each other, forming some chemical elements. The principle of simulation experiment is magnetic confinement nuclear fusion. Due to the collision nuclear reaction between fast neutrons with kinetic energy and fast protons, as well as thermal neutrons and thermal protons, less binding energy is required than proton neutron nuclear reaction. However, this process does not meet the actual temperature requirements of nuclear fusion. It is a subtype of magnetic confinement nuclear fusion device, but it can also form weak confinement space, where free negative electrons (B rays) and positive protons, neutrons combine into atoms in a limited space. Because deuterium and tritium in the device do not undergo nuclear fusion, but rather experimental techniques enable cyclic nuclear reactions between deuterium, tritium, and hydrogen. This reaction produces nuclear energy, which is different from the chemical energy produced by chemical reactions. This energy property is high-grade energy, closest to the nuclear core energy level, and is the main binding energy of nuclear synthesis chemical elements. In the experimental device, gamma rays bombard deuterium, decompose protons and neutrons, protons combine with neutrons to form deuterium and tritium, hydrogen combines with neutrons to form deuterium or tritium, gamma rays bombard tritium, decompose into protons and neutrons, and protons and beta rays react with free electrons to form hydrogen. Several nuclear reactions release a large amount of high-grade energy. At the beginning of the experiment, gamma rays bombard deuterium and tritium to decompose fast neutrons and fast protons, releasing nuclear energy. After reaching a certain temperature, fast neutrons and fast protons collide at high temperature and high pressure to form hydrogen, deuterium, and tritium, releasing a large amount of nuclear binding energy. The energy is sufficient to allow more fast neutrons and fast protons to combine with deuterium. Because the nuclear energy released after atomic decomposition and binding is much larger than the binding energy, this will result in a difference in energy absorption and release values. The accumulation of remaining nuclear energy causes the temperature to rise, gradually reaching higher nuclear binding energy requirements. This cyclic model chemical nuclear reaction continues to release a large amount of hadrons, leptons, mesons, higher nuclear binding energies, various gluons required for quark reactions, and a small amount of gamma rays as the starting point for reactor driving. Energy, only a small amount of

gamma rays are needed for efficient energy output in the future, greatly reducing the need for gamma rays The cost and technical difficulty of the required amount of radiation. Magnetic confinement fusion devices can confine these hadrons, leptons, ions, etc. in finite space. X-rays, gamma rays, neutron currents, proton currents, and other particles collide with each other, causing energy and pressure to collapse and increase compression density. In the experimental space, there are various fast neutrons, fast protons, electron currents, and quanta, making it easier for atomic nuclei to capture these particles and form new elements. In this process, the collision of rays and high-energy particles provides the necessary conditions for quarks, and the energy is asymmetric. Thus, the quark effect and weak electric phase transition effect in the universe were achieved.

3. Analysis and Discussion

Why haven't scientists like Hoyle been successful in creating nuclear fusion elements? Because they focus too much on nuclear binding energy and cannot achieve the abundance of elements in the universe, they also lack the supply of gluons required for quark reactions during the process, making it unsuccessful. Achieving the abundance of element nucleosynthesis does not necessarily require thermal energy and negative temperature. Quantum energy exists in various forms, and we can use its special quantum energy and new nuclear reactors to achieve cosmic abundance. Magnetic confinement nuclear fusion devices can not only simulate the nuclear fusion environment, but also constrain various energies and quanta in limited space, providing various gluons and binding energies needed for nuclear synthesis. Moreover, the energy and plasma inside the device are infinitely asymmetric. The continuous decomposition and binding process of cyclic hydrogen nuclear reactions will release a large number of hadrons, mesons, and leptons. inducing gluons to bind into nucleons, Thus generating atoms. During the experimental process, hydrogen undergoes nuclear reactions in a gaseous state, which does not meet the density critical physics requirements for nuclear fusion, so it will not explode. The experimental process is stable and safe, synthesizing superheavy atomic nuclei or atoms. These superheavy elements have hundreds of protons, neutrons, and electrons combined into individual atoms in a single nucleus,

This experiment investigates from four aspects: cosmic abundance; Nuclear synthesis elements require binding energy; And the infinite asymmetry of energy required for various elements, which makes it easy for nucleons to recombine; Quarks require sufficient gluons and pressure. Satisfied every necessary condition in nucleosynthesis elements. The failure of modern artificial chemical element experiments is due to these four essential factors. The energy pressure causes intense collisions, collapses, and shortages of hadrons, quanta, and energy in various chemical nuclear reactions in space. At the same time, it can timely supplement the basic particles and energy that disappear when symmetry is lacking, achieving an infinitely unsaturated and asymmetric interface in the nuclear reaction process. When it is saturated to a certain extent, new elements are produced. This is the principle of designing this experiment, and the experimental device is a star simulator.

4. Experimental equipment and theoretical design methods for the study of artificial chemical elements

This article aims to design an artificial chemical element experimental device.

Firstly, use a spherical object with a diameter of approximately 1 to 2 meters. The outer shell is made of lead metal, and the inner layer is made of polymer material to prevent heat loss. The circular ring magnet at the center of the sphere has extremely strong magnetism, and a lead rod is tightly fixed at the center of the magnet. As a material that reflects radiation, the guide rod is subjected to a voltage exceeding 0.5 volts. Five circular coils have been added to the exterior of the magnet. The diameter of the coil is 8 centimeters, which can be larger.. The voltage applied to the coil is between 1 volt and 220 volts. The coil uses a mixture of dozens of metal elements. If it can use a portion of radioactive heavy elements and lanthanide elements, and does not use metals that are prone to neutron fission, it is necessary to prevent nuclear fission. Please note that the coil can only be made of heavy metals, and the chemical reactions between heavy metal elements are not easy to occur. Their function is to saturate these radioactive elements. Install abnormally strong ultraviolet, infrared, alpha, X-ray, beta, gamma and other radiation emitters on the equator of

the sphere; Install two sets of emitters for each type of radiation, and install two sets of neutron current emitters, proton current emitters, and neutron current emitters on the top of the sphere. Neutron emitter, the product of alpha ray particles bombarding beryllium plate is neutron stream. When using neutron stream to bombard paraffin, there are proton stream emitter, alpha emitter, beta ray, r-ray, radiation emitter, plutonium element in the lead box, enhanced magnetic field and electric field outside the lead box, and electrodes above the lead box. The box emits three directional radiation beams. The interior of the sphere must be vacuum. It is filled with high-density hydrogen gas and a mixture of tritium and deuterium inside. Hydrogen is very important in this experiment because the formation of stars is a hydrogen cloud, the most widely present gas in the universe, accounting for 76% of the universe's elements. Hydrogen nuclear reaction is the simplest, most primitive, lowest technical difficulty, most effective, stable, and economical nuclear reaction technology in modern experiments. It only requires a small amount of gamma rays and low binding energy to achieve efficient energy output, accompanied by the production of a large number of hadrons, leptons, mesons, and gluons. Gamma ray bombardment of deuterium decomposes protons and neutrons, and the energy generated by the combination of protons and neutrons is the most important and highest level of energy in the synthesis of elements, different from the energy of other chemical reactions. The entire process allows for collisions between rays, between rays and magnets and coils, between fast neutrons and fast protons, between neutrons and protons and rays, and between nucleons, forming a few body system. The electric current is provided outside the sphere, which produces a large number of leptons, media, etc. Strong, leptons, mesons, etc. are important for the formation of atomic nuclei.

The following introduces the function of experimental design components:

Magnet: Magnetic confinement of plasma increases particle density, and collisions can
release gamma rays from lead boxes containing plutonium elements. It is an energy source for bombarding deuterium and tritium to decompose protons and neutrons, and an important energy and condition for the occurrence of gamma processes

Beta rays are required for the synthesis of heavy elements, which require a positive and negative electron source. Alpha rays are used to
bombard plutonium plates to produce neutron beam sources, and these fast neutrons are high-energy particles.

Alpha rays are also a source of high-energy neutrons produced by bombarding plutonium plates, and then bombarding paraffin to generate proton streams, which are high-energy fast protons.

This design not only effectively utilizes lead box alpha rays, but also increases the mass and density
of fast protons and neutrons, increases collision opportunities, and synthesizes heavy elements Rp - process physical conditions. Heavy metal circle: radioactive elements become saturated elements, stable physical properties of elements, and the raw material for nucleosynthesis of heavier elements. Hydrogen nuclear reaction: provides sufficient nuclear binding energy. Due to the continuous decomposition and synthesis of hydrogen atoms, high-energy fast protons and fast neutrons are produced. High energy particle collisions will continue to directly or indirectly produce hadrons, leptons, mesons, and gluons, because high-energy particle collisions can produce new particles in a very short time.

Possible particle types:

1. Hadrons:

including protons, neutrons, and other more complex particles such as baryons. Formed under strong interaction forces, multiple hadrons are easily generated during collisions.

2. Lightons:

such as electrons, muons, and their corresponding neutrinos. Light particles do not participate in strong interactions, but

often appear together with other particles in high-energy reactions.

3. Mesons:

are a type of particle composed of quarks and antiquarks, such as π mesons (pions), K mesons (kaons), etc. It often occurs in the interactions and decay processes between hadrons.

4. High energy particle collisions not only produce gluons, but also form quark gluon plasmas, jets, and other phenomena through complex strong interaction processes, providing important experimental foundations for studying strong interactions and the properties of elementary particles. In extreme high-energy environments with a large number of hadrons, leptons, mesons, and gluons (such as the early universe or inside high-energy colliders), the rate and mechanism of nuclear reactions will significantly change. In extreme environments with high temperature and density, the overall rate of nuclear reactions may accelerate due to increased particle collision frequency, enhanced strong nuclear forces, and material state transitions. The basic particles, nuclear physics reaction sources, and supply sources required for nucleosynthesis of heavy elements.

Gamma rays, beta rays, alpha rays, X-rays, ultraviolet rays, infrared rays: are heavy elements synthesized by nucleosynthesis, causing one of the asymmetric effects on nucleons and energy. Because the energy of radiation can interfere with the spin energy of the nucleus, it can cause the splitting of nuclear energy levels, making originally symmetrical energy levels asymmetric. The plasma generated during nuclear reactions is also one of the asymmetric effects. Asymmetric nuclei are unstable and easily accept nuclear recombination. The energy required for nuclear recombination is provided by the nuclear energy of particle hydrogen nuclear reactions. The energy of various rays can also be used as a special type of energy required for nucleosynthesis elements, and saturated elements require one of the energies.

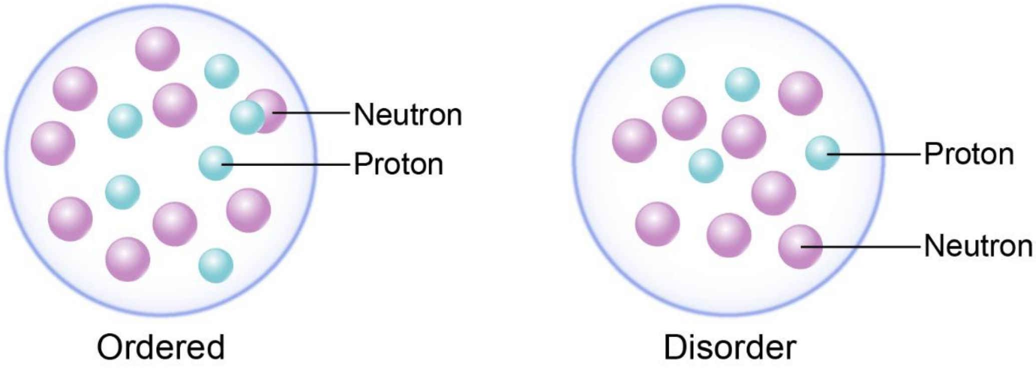
Magnetic lead rod in the middle, which reflects particles and rays, increasing the chance of particle collisions

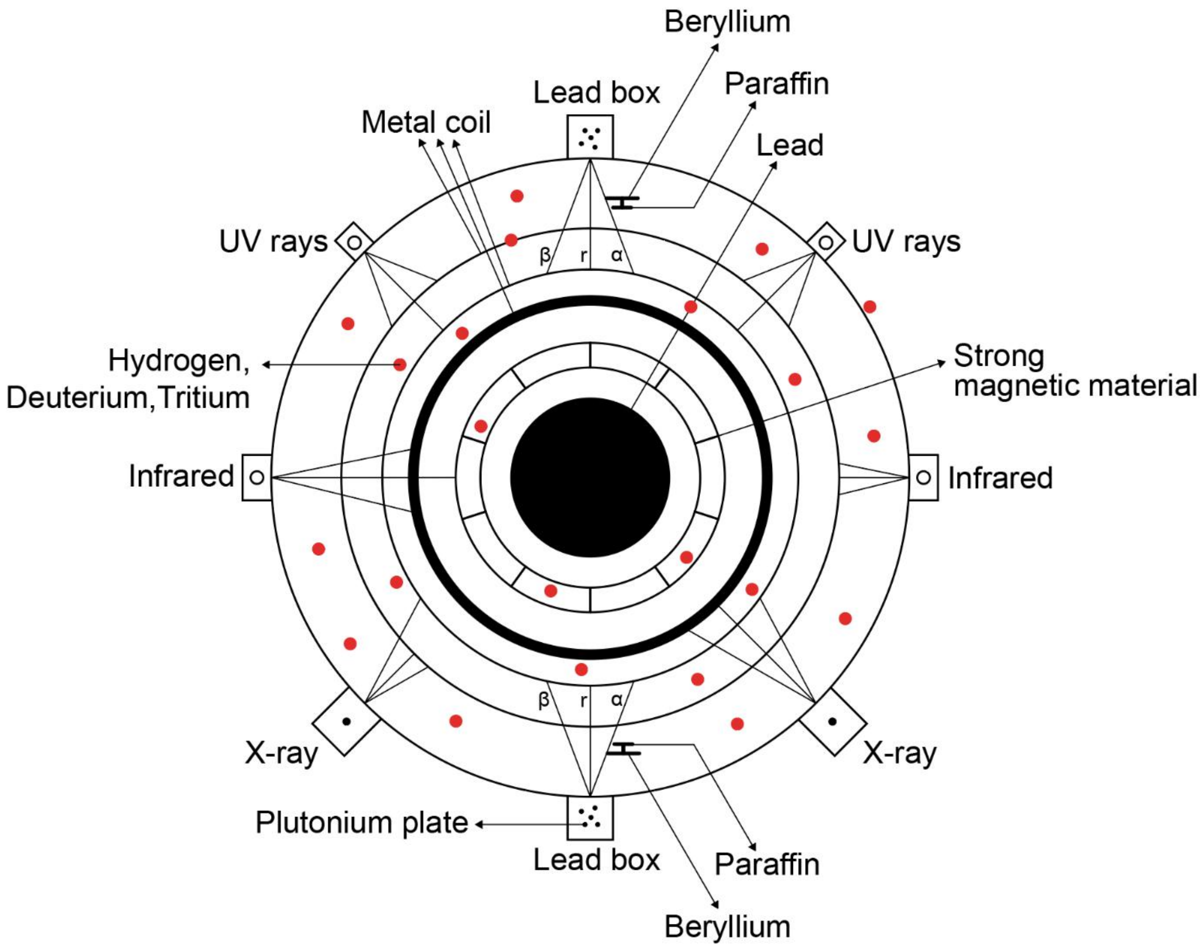
According to the energy of the formed elements, as long as the intensity of gamma rays, X-rays, infrared rays, and other radiation is changed in this experiment, the time required to form elements within a certain proportion of the radiation intensity is adjusted, and the intensity of neutron and proton flow into the radiation source is adjusted, the specific heavy elements formed by different intensities can be verified through actual experiments. In the experiment, great care should be taken to protect the loss of plutonium elements, otherwise radioactive elements will leak out; Pay attention to changes in the sphere, excessive pressure, high temperature, or other physical changes. If it is a simple and efficient output of thermal energy, metal coils can be avoided.

This experiment is conducted in the space of secondary magnetic confinement fusion, where the radiation energy, quantum energy, and particles gradually increase in density and energy pressure in a finite space, and various energies are present in the finite space Particles and quanta belong to infinite asymmetry, reaching a certain saturation degree, they will collapse and evolve into elements. Artificial elements are generally heavy elements, which are easily decayed. There are three types of decay: alpha decay, beta decay, and r-decay. Moreover, the larger the mass of a heavy element, the more likely it is to undergo decay because there is a lack of one or more nuclear equilibrium particles inside the nucleus. The fewer equilibrium particles emitted by decay, the more difficult it is to maintain the physical properties of the heavy element, and a decay occurs. The heavier the heavy element, the more nuclear equilibrium particles it requires. This experiment is designed for heavy element decay, using the radiation energy emitted by heavy elements to bombard radioactive elements with radiation energy and quantum energy, and to replenish and absorb specific nuclear equilibrium particles. The energy and nucleons required for conditional nucleosynthesis of elements. Let the nucleosynthesis heavy element core reach saturation state, and the elements that reach saturation state can increase and maintain for a period of time before decay occurs, making radioactive elements stable physical properties. Whether in modern physics experiments or changes in celestial bodies in the universe, when a state of saturation is reached, another form of physical state is usually changed, which is the opposite of what is meant by the extreme. This is the principle behind the

formation of new elements. The physical properties of heavy elements in a saturated state are stable and not easily altered. However, when energy pressure is applied to heavy elements in a saturated state, the core collapses, causing instability within the nucleus and making it easier to accept other nucleons, resulting in a heavier mass table. This is the principle behind the formation of new elements. The combination experiment of Rp process and γ - process [10] has the following advantages: 1. Due to the collision nuclear reaction between fast neutrons with kinetic energy and fast protons, as well as thermal neutrons and thermal protons, less binding energy is required than proton neutron nuclear reactions. The use of this cyclic hydrogen nuclear reaction for decomposition and binding releases much more binding energy. The new type of reactor with a difference in absorption and release values is the biggest success point of the paper, which can replace the energy of traditional heavy element nuclear fission and can be applied to nuclear reactor technology. Moreover, the energy conversion efficiency is high, and the energy can be widely used in various fields. 2. By realizing magnetic confinement space in the reactor, the ion density can be increased, and the speed of nuclear synthesis of elements can be optimized; 3. A large amount of high-density beta ray electron flow, fast neutrons and fast protons, leptons, and mesons can allow heavy elements to nucleate into heavier atoms. However, heavy nuclear fission and light nuclear fusion have no advantages because fission and fusion do not involve high-energy particle collisions or the production of leptons and mesons after high-energy particle transformations. 4. Increase the energy of various rays to meet the multiple levels of energy required for nuclear binding, making the physical properties of artificial heavy elements more stable. 5. The order of nuclear arrangement in the nucleosynthesis process is orderly, that is, the combination of protons, neutrons, and electrons is balanced and ordered. This greatly increases the range of nuclear force diameter control, allowing for the nucleosynthesis of heavier and more stable heavy and new elements, which is an advantage that target shooting nucleosynthesis does not have; 6. The new reactor adds various types of radiation, which not only splits the atomic energy levels to make the core energy asymmetric, but more importantly, saturates the radioactive elements and stabilizes the physical properties of the elements, making the reactor safer and waste easier to handle. If it is a simple and efficient output of thermal energy, metal coils can be omitted.

Experimental setup diagram 2





5. Conclusion

The advantage of this experiment is that it creates an environment and conditions similar to the formation of various elements in cosmic stars, and the formation of artificial elements is absolutely possible. There are many artificial elements after the 93rd position on the periodic table of chemical elements. These elements are highly unstable in physical properties and can easily transform into other elements. Most of these elements are obtained by bombarding other matter with particle accelerators, known as shooting physics or quark physics, and they form elements in a short period of time. This article speculates that the energy of shooting type and quark physics artificial elements is insufficient or lacks one or more important and essential basic constituent particles and quanta. Important constituent

particles, such as neutrinos, leptons, mesons, hadrons, etc., make the physical properties of the elements unstable. Moreover, the order between heavy element nucleons in target shooting nucleosynthesis is disordered, which greatly reduces the diameter of nuclear force control and causes physical instability. Therefore, by designing simulations of nuclear fusion under extreme physical and special environmental conditions, and through sufficient time and strong collision models or natural combinations to form physically stable elements, new chemical elements can be discovered to solve the technical complexity of the refining process of artificial elements and the difficulty of utilizing unstable physical properties

We conducted in-depth research on the combination of the sources of cosmic elements and modern physical methods, and designed experimental methods for artificial elements. If theory and experiments are successful, the development of physics and chemistry research will open up new channels and models. This model will disrupt the development of modern science and promote the development of energy, chemistry, and physics. The significance of science is immeasurable due to the enormous changes.

6. Data Declaration

The data in this article is limited and no new data has been used. It simply summarizes old data published by previous scientists and creates a new type of experiment. Old data was cited in the reference materials. Due to not being able to retrieve research literature from recent years, there are not many references available. The importance of this article lies in the use of a special experimental method, which is an innovative type of experiment. It combines the theory of artificial chemical elements in four aspects: cosmic abundance, nucleosynthesis energy, quantum energy deficiency symmetry, and gluon replenishment, as well as the gluon required for quarks. While solving the four main problems of artificial elements, there may also be more stable radioactive elements or new chemical elements. Experimental design for the formation of cosmic chemical elements. Innovate a new idea and research method. In recent decades, no new progress has been made in the field of artificial chemical heavy elements, and new achievements have reached a bottleneck. It is difficult to achieve any good results. If we want to learn more about the mysteries of the universe, we need to change another research method and improve the study of modern chemical artificial heavy elements. Modern chemistry can only undergo types of chemical reactions, so by changing the reaction method, stable physical properties of new elements and radioactive heavy elements can be discovered. Evidence of the paper. In his references.

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